Division of Plan Review
The Town of Leesburg in Virginia
Construction Drawings for Subdivisions
Checklist

File Date: _____ Plan Control Number: _____

Project: _____

Owner: _____

Design Firm: _____

Contact Engineer: _____ Phone Number: _____

		Deficiencies	
	OK	Sheet #	Notes
General Information (Section 10-110, 1)			
▪ Name and proposed use of proposed subdivision ▪ Names and addresses of owners of record and subdivider ▪ Names, addresses, seal and signature of the licensed professional preparing the drawings ▪ Deed reference, tax map, block and parcel number ▪ Vicinity map provided at a scale not more than 1" = 1000' ▪ Existing zoning, proffers and covenants listed ▪ All adjoining properties with owner name, address, zoning and use listed ▪ Detailed signed cost estimate including items within easements			
Project Tabulations (Section 10-110, 1A)			
▪ Gross acreage of subdivision to the nearest 1/10 acre ▪ Area and number of lots and average lot size ▪ Minimum lot area and width ▪ Area in lots, area of open space and percentage of open space/gross area			
Existing Subdivision Conditions (Section 10-110, 1A)			
▪ Certified map of survey with all property lines, topography maximum 5' contour interval ▪ Location of rights-of-way, roadways, driveway access points and explanation of any easements ▪ Location of overland water courses, drainage structures and FEMA Floodplain Limits ▪ Location of tree cover and areas of steep slopes broken into two categories, those between 15% and 25% and those greater than 25%			

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Graphic Requirement (Section 10-110, 1B)			
▪ Sheets 24" x 36" numbered, drawn clearly and legible at a scale not less than 30' to the inch labeled "Construction Drawings" with match lines and corresponding sheet numbering system where required ▪ Blank space 2" x 3" on approved cover sheet for town approvals ▪ Construction drawings bear seal and signature of professional preparing drawings			
Profile (Section 10-110, 2A, 2B and 2C)			
▪ Profiles drawn to a scale of not more than 1" = 30' horizontally and 1" = 5' vertically ▪ Water systems - existing and proposed grade, cover (4' minimum and 6' maximum) and clearance at all utility crossings, pipe material, joints, tees, valves, bend locations and size, thrust restraints and strapping, trench and bedding requirements ▪ Sanitary sewer - existing and proposed grades, cover and clearance at all utility crossings, pipe length, pipe material, pipe slope, inverts in/out at all manholes, top elevation, 100-year WSEL, and type of frame and cover ▪ Transportation - existing and proposed grades, cover and clearance of all utility crossings, stations of vertical curves, elevations RT top, LT top, centerline, length of curves, sight distances, locations of PI, PC, PT, PVI, PVC, PVT, high/low point, begin and end of transitions for super-elevation, grades in and out of curves, entrances, stations, and structure stations			
Subdivision Conditions (Section 10-110, 2A)			
ARTICLE 2; WATER AND FIRE REGULATIONS ▪ Town Council approval of extension (2-110) ▪ VDH approval (2-110 and 2-125) (15 or more equivalent residential connections 6,000 gpd or private well) ▪ Location of proposed watermains within streets (10' north or east of centerline or outside edge of sanitary sewers (2-121) ▪ Meter located within utility strip (2-121) ▪ Water service calculations (2-122) (average day demand, peak hour demands, maximum day demands, maximum day with fire flow and no pressures less than 20 psi minimum) ▪ Cover requirements (2-122) (cover less than 3' or greater than 8' with strength calculations, request special approval on cover sheet) ▪ Valves (2-122) (four valves at crosses, three at tees, except at fire hydrant leads and one every 500' on trans. mains) ▪ Air releases and blow-offs (2-122 and 2-360) (all high points, all low points and terminal points; automatic releases required on mains 12" and greater) ▪ Thrust blocks (2-122) (required at all hydrants, valves, bends, tees, crosses, wyes and caps including details)			

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ARTICLE 2; WATER AND FIRE REGULATIONS (CON'T) ▪ Easements (2-123) (on private property, 1:1 side slope from outside pipe edges from the pipe invert to the proposed finished grade with a minimum 10' easement width) ▪ Oversized mains (2-123) (submit unit prices for oversized mains and appurtenances for Director approval) ▪ Private system requirements (2-125) ▪ Cross connection controls (2-126) ▪ ISO calculations (2-210 and 2-400) ▪ Minimum fire flow requirements (2-220) ▪ Interim fire flow requirements (2-230) (request Director approval for interim fire flow on cover sheet) ▪ Fire hydrant coverage plan (2-240) (hydrant no closer than 50', and 300' maximum hose coverage "as hose lies" to encompass building) ▪ Fire hydrant, Siamese and sprinkler connection locations (2-240) (fire hydrant minimum 50' from building and maximum 100' from Siamese connection) ▪ Fire Marshal approval (2-240) (note on cover sheet) ▪ Fire lanes (2-250) (18' in width with a maximum 5% slope. Buildings exceeding 50' height require access front and rear) ▪ Hydrant design (2-260 and 2-390) (second valve required for hydrant service line longer than 50') ▪ Materials handling, emplacement and testing (2-310) ▪ Watermain pipe, fittings and accessories (2-320) ▪ Highway crossings for water and sewer mains (2-330) ▪ Water service connections (2-340) ▪ Separation of watermains and sanitary sewer (2-350) ▪ Notes and details necessary for the construction, maintenance and inspection of the public water system			

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Construction Drawings for Subdivisions
Checklist

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ARTICLE 4; SEWAGE AND SOLID WASTE DISPOSAL ▪ VDH approval (4-110 and 4-130) (serving 400 persons and/or 40,000 gpd or more) ▪ Approval by Town Council (4-110) (application for sewerage service requiring extension of existing facilities) ▪ Compliance with town's Subdivision and Land Development Ordinance (4-120) ▪ Calculations providing for peak flow discharges (available capacities) (4-130) ▪ Location and separation of sewers (4-130) (refer to Article 2; Section 2-350) ▪ Locate sewers clear of stormwater management impoundment and embankment areas and no closer than 15' downstream of any outfall or spillway. (4-130) ▪ Sewer crossing other utilities (4-130) (ideally cross at approximately 90°) ▪ Cleanouts properly located (4-130) (5' building, property line, easement line) ▪ Waiver for cleanout locations (4-130) (noted on cover sheet) ▪ Velocity in sewer. Between 2.0 fps minimum and 15 fps maximum. (4-130) ▪ Depth of cover within specifications (4-130) (minimum cover traffic 6', outside 3', maximum cover 18', depth greater than 18' require strength calculations, requests for waiver recorded on cover sheet) ▪ Sanitary forcemain computations (4-130) (minimum main velocity 2 fps, maximum 8 fps, termination at manhole with gravity flow) ▪ Location and width of easements (4-130) (1:1 side slope from outside edge of pipe extending from the invert of the pipe at its lowest point between grades and rounded up to the nearest foot) ▪ Class of bedding provided for each sewer run (4-140) ▪ Approval for private systems (4-200) ▪ Description of method of storage, collection, disposal (4-300) ▪ Container size computations (4-300) ▪ Type of storage employed listed (4-310) (central refuse rooms or individual containers) ▪ Statement regarding collection (4-320) (town, private, management) ▪ Statement of disposal with details of storage area (4-330, 4-340) (provide proper screening) ▪ Notes and details necessary for the construction, maintenance and inspection of the public sewerage system			

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Subdivision Conditions (Section 10-110, 2G)			
ARTICLE 5; STORM DRAINAGE ▪ Concentrated flows for the 10-year storm in excess of 4 cfs contained within drainage system (5-100) ▪ Drainage system capacity for 10-year event (5-210) ▪ Compliance with Storm Drainage Master Plan (5-210) ▪ Overland relief route and limit for infrequent events shown (5-210) ▪ Minimum easement requirements for pipe system (5-220) (1:1 side slope, 24" larger and multiplies 1:1 from side wall, minimum 15') ▪ Minimum easement requirements for channel system (5-220) (minimum 15' TW less than 5; TW + 10' access strip for TW 5-10', TW+ 10' access strip both sides for TW greater than 10') ▪ Drainage divides less than 200 acres (rational method) (5-231) ▪ Drainage divides greater than 200 acres (USDA-SCS Methodology) (5-232) ▪ Approved pipe materials (5-242) (Only RCP accepted for public maintenance; vitrified clay, cast iron, corrugated metal, PVC allowed for private systems) ▪ Minimum 2' cover required (5-242) (less cover requests noted on cover sheet for Director approval) ▪ Velocity requirements for pipe system (5-242) (minimum 2.5 fps full, maximum 15 fps full or Director approval) ▪ Trunk line of system matching crowns (5-242) ▪ Spread requirements (5-244) (maximum 8' spread roadways, I = 4.0 in/hr) ▪ Bypass flow (5-244) (inlets must be clearly marked on plans) ▪ Protective railing (5-247) (for vertical drops of 18" or more) ▪ Hydraulic grade line computations and plotting on profiles (5-249) ▪ Channel/swale capacity and adequate channel lining (5-252) (design 10-year event, maximum side slope 3:1 grass-lined) ▪ Swale capacity with easements (5-254) (maximum length 300', maximum 4 cfs) ▪ Adequate culvert design (5-260) (minimum 30' from outside edge ultimate width at pavement, include inlet and outlet control computations) ▪ Outfall to adequate channel (5-311) (minimum 300' beyond site) ▪ Adequate pond routing (5-314) ▪ Adequate spillway design (5-322) ▪ Provide dam failure analysis/classification (5-324 and 5-520) ▪ Adequate geologic investigation (5-324) ▪ Adequate embankment and side slope protection (5-324) ▪ Adequate seepage control (5-324)			

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Construction Drawings for Subdivisions
Checklist

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ARTICLE 5; STORM DRAINAGE (CON'T) ▪ Adequate spillway design principal/emergency (5-324) ▪ Adequate minimum surface area/depth for wet ponds (5-326) ▪ Pond design elevations/cross sections (5-328) ▪ Details provided for construction (5-328) ▪ Details and computations for design criteria of rooftop detention facilities(5-332) ▪ Details and computations necessary for design and construction of underground detention facilities (5-342) ▪ Porous pavement designs require prior approval of Director (5-351) ▪ Porous pavement mix design approved/storm routing (5-352) ▪ Porous pavement subsurface investigation perc rates (5-352) ▪ Regional facilities (5-360) (minimum 100 acre drainage area or serves two sites minimum) ▪ Maintenance provisions for access to detention facilities (5-380) ▪ Prior approval required by Director for work inside floodplain (5-410) ▪ Predevelopment limits/post development limits (5-410) ▪ HEC–2 pre/post (5-410) ▪ Alternate access routes provided (5-420) ▪ Floodplain study to town, FEMA (5-422) ▪ Approval by FEMA (5-422) ▪ Floodplain study required (5-431) (development, subdivisions drainage area 50+ acres) ▪ Approval by Director of Mannings "n" values (5-431) ▪ Cross–section locations (5-431) (300' up and downstream of point where pre/post WSEL is the same) ▪ Approval by Director required for dam design (5-511) ▪ Highway embankments may not be used as dams (5-512) ▪ Provide maintenance and inspection agreement (5-512) ▪ Separate emergency spillway (5-520) (max. 2' higher than 100-year elevation) ▪ Proper flood analyses provided (5-520) ▪ Provide BMP at Director's request (5-610) ▪ Pond volume computations provided (5-620) ▪ Release times for extended detention dry ponds (5-620) (40 hours minimum, 48 hours maximum) ▪ Notes and details necessary for construction, maintenance and inspection of public storm sewer systems			

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The Town of Leesburg in Virginia
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Checklist

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Subdivision Conditions (Section 10-110, 2I)			
ARTICLE 6; ENVIRONMENTAL PROTECTION ▪ Erosion and sediment controls required (6-110) (areas over 500 square feet or removal or additional of 12" depth of soil) ▪ Compliance with Virginia Erosion and Sediment Controls required (6-110) ▪ Inclusion of detailed narrative (6-200) (calculation of approximate cut and fill volumes, erosion control measures, final stabilization, land disturbing schedule) ▪ Note of "No Area Left Denuded for Longer than Thirty Days" (6-220) ▪ Note of "Overland Drainage Shall not Contaminate Roadway Pavement Surfaces" (6-220) ▪ Provision of proper surety for erosion control measures (6-300) ▪ Conformance with this section (6-400) (chemical and petroleum liquids)			
Subdivision Conditions (Section 10-110, 2C, 2D, 2E, 2F and 2J)			
ARTICLE 7; TRANSPORTATION ▪ Compliance with VDOT standards (7-110) (except as revised herein) ▪ Inclusion of traffic study (7-111) (required when adjacent to road carrying 500 vpd or more with current 20-year counts) ▪ Computations detailed (7-111) (ADT, PHV, directional split, and LOS) ▪ Location of traffic control devices (7-111) ▪ Conformance with functional classification (7-220) ▪ Conformance with geometric design guides (7-300) (industrial zones 52' minimum width FC to FC) ▪ Conformance with Battlefield Parkway section (7-300) ▪ Inclusion of roadway elevations (7-310) (CL, intersection, curb returns, curb inlets, manholes, begin and end vertical curves, 50' on tangents, 25' in vertical curves) ▪ Cul-de-sac criteria (maximum slope 3%), minimum radius right-of-way 55', pavement 45') (7-310) ▪ Proper street signage locations (7-310) ▪ Proper location of ramps for handicapped access and movement (7-340) ▪ Guardrail, note shown on plans (7-350) ▪ Guardrail, type/location/height shown (7-350) ▪ Proper entrance location/number (7-360) (one entrance without approval of Land Development Official) ▪ Proper entrance alignment (7-361) (CL to CL or 125' minimum offset)			

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ARTICLE 7; TRANSPORTATION (CON'T). ▪ Adequate design for pipestem drives (7-363) (maximum slope 12%, minimum radius 50', proper alignment) ▪ Proper access easements (7-364, 7-370) ▪ Adequate design for common drives (7-364) (maximum slope 12%, maximum length 600', SU vehicle turnaround) ▪ Parking court access easements (7-370) ▪ Provide for "No Through Traffic" (7-370) ▪ Proper landscaping provided (7-370) (refer to Zoning Ordinance) ▪ Design noise abatement facilities per Town Council (7-380) ▪ Adequate pavement designs (7-410) (6" 21A, 3" BM-2, 1-1/2" SM-2A for local road; 6" 21A, 6" BM-2, 1-1/2" SM-2A for through collector) ▪ CBR tests at 500' intervals (7-420) (modification of design at construction phase) ▪ Proper "head in" parking space dimensions (7-520) (standard and handicap refer to Zoning Ordinance) ▪ Handicapped parking indicated by sign and striping per ANSI (7-520) ▪ Proper parking area aisle widths provided (7-520) ▪ Maximum contiguous parking spaces 20 or less (7-520) ▪ Turnaround provided for AASHTO SU vehicle (7-520) (parking bays with 20 or more spaces) ▪ Proper slope provided within parking lot (7-520) (maximum 7%) ▪ Bond amount shown for street lights (7-610) ▪ Provisions for street lighting (7-620, 7-640) (public roads, commercial entrances) ▪ Proper sidewalk location and size (7-710) (minimum width 4', maximum cross slope 2.08%, maximum longitudinal slope 5%) ▪ Brick faced sidewalk in historic area (7-710) ▪ Adequate trail design (7-720) (width 6' minimum, vertical clearance 10', minimum 12' easement, 20' minimum turning radius, maximum longitudinal slope 10%, maximum cross slope 2.08%) ▪ Highway bridges require VDOT approval (7-800) ▪ Independent review required by Director for special structures (7-800)			
Subdivision Conditions (Section 10-110, 2F)			
ARTICLE 8; VEGETATION PRESERVATION AND PLANTING ▪ Location and size 18" DBH or larger trees (8-310) ▪ Limits of clearing and grading (8-310) (minimum 5' from trees to be saved) ▪ Adequate drainage for trees (8-420) (no impounding of water for 48 hours within drip line of trees to be saved)			

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Subdivision Conditions (Section 10-110, 2H)			
ARTICLE 9; GEOTECHNICAL GUIDELINES ▪ Required in-depth soils and geotechnical review provided (9-100 & 9-220) ▪ Compliance with section including terrain, surficial description and recommendations (9-230) ▪ Compliance with section including narrative, geologic cross sections, groundwater locations, recommendations (9-230) ▪ Blasting information if applicable (9-230) ▪ Written statement of design engineer review and compliance with geotechnical review (9-510) ▪ Written report and inspection provided and required (9-611) ▪ Written note on as-builts for guarantee for one year against ponding or settlement (9-713) ▪ Proper materials for use as backfill (9-720) ▪ Director approval required for location of topsoil stockpiles (9-730) ▪ Provide note stating "Contractor to provide record of all blasting to Director with locations, depths, number of holes and quantity of explosives used each day" (9-741) ▪ Test pits provided (9-750) ▪ Sheeting and shoring provided per Director's requirements (9-751) ▪ Dewatering details and calculations provided based on geotechnical investigations (9-753) ▪ Director approval required for all borrow material (9-755) ▪ Backfill meeting VDOT requirements (9-760) ▪ Parking lots, courts, driveways meeting minimum pavement requirements (9-763) ▪ Minimum 4' cover required for water utilities (9-770) ▪ Maintaining one lane of traffic during utility construction (9-770) ▪ Contractor/soil test service reports on fill material (9-784) ▪ Conformance with specifications of core trench (9-788) (minimum width 4', minimum depth 4'; sides 1:1 or flatter extending to riser crest elevation) ▪ Minimum riser specifications (9-791) (watertight connection, prevent flotation 1.25 safety factor) ▪ Minimum anti-seep collar requirements (9-791) ▪ Minimum bedding requirements (9-791) (concrete cradle required for RCP conduits) ▪ Proper construction techniques employed to reduce erosion in place (9-794) ▪ Riprap placed in conformance with state criteria (9-795)			